THE BEST SOUND IN TOWN

De Forest Achievements

PHONOFLM
(Sound on Film)

PHONODISC
(Sound on Disc)

De Forest Patents

General Talking Pictures Corporation
Executive Offices
218 West 42nd Street
New York City
DEFOREST PHONOFILM and PHONODISC

Protected by

United States and Foreign Patents
DR. LEE DeFOREST

"Father of Radio and Talking Motion Pictures"

Dr. Lee DeForest, inventor of Phonofilm and chief of engineers of General Talking Pictures Corporation, is one of the best known of American inventors. He is recognized as the supreme authority on long distance communication. He has been named to the French Legion of Honor, and has been awarded both the Elliott Cresson medal and the John Scott medal. These last two honors, the most coveted recognitions in scientific circles, were both accorded him for his invention of the audion amplifier, the only method of unlimited sound amplification. The audion made the talking motion picture possible for it provides the undistorted volume required for a theatre. Every loud speaker radio also employs the audion, and it is used on all long distance telephone lines.
FOREWORD

The time has passed when the American exhibitor could decide in his mind as to whether or not he would install sound equipment in his theatre. Producers of pictures have decided the question for him. There will not be enough silent pictures produced during the coming season to keep a house open three months. Silent versions, of some talking pictures, will be available, but no producer has yet found a means of making silent versions a box-office draw for any theatre.

Despite the sudden necessity for sound equipment, the exhibitor should be very wary before he buys. He is making an investment, equipping his theatre with a device upon which his business will depend for years to come. Quality of reproduction should be the one guiding factor in selecting sound equipment. Nor should one hearing elect or condemn any type of sound equipment. Almost any of them can be made to sound good during a short projection in the demonstration room of a manufacturing company.

The question of tonal quality, and in this is included evenness of sound reproduction, once settled, the construction of the sound device should be inquired into. To buy a flimsily constructed reproducing device is as foolish as putting cardboard seats into a theatre. Sound projectors are subjected to even harder wear than projecting machines, and unless the construction is sturdy, and designed especially for long wear, they become nuisances in a matter of a few weeks and useless within a few months.

Price should be the last consideration. Any device that cannot provide good tonal quality and stand wear over a period of years is expensive at any price. General Talking Pictures Corporation is in the position of being able to compete with the entire field in the question of price, but the price of DeForest Phonofilm and Phonodisc was set only after the tonal quality had been combined with sturdiness of construction. DeForest Phonofilm and Phonodisc is the only reproducing device that was not built to fit a price. All the quality was built in, and then the price estimated. The fact that the price fell more than fifty per cent below that of any of the devices that approached it in quality was due solely to the fact that Dr. Lee DeForest, inventor of Phonofilm and chief engineer of General Talking Pictures Corporation, has been building Phonofilm sound projectors for actual theatre use for nearly ten years.

DeForest Phonofilm and Phonodisc at $6,500 is the greatest value in the sound reproducing field. Its tonal quality is surpassed by none and it is built to last forever. The same quality is true of DeForest Phonofilms, only for sound-on-film product, at $5,000, or Phonodisc, for sound-on-disc only, at $3,450.
The Junior DeForest Phonofilm and Phonodisc is a typical DeForest achievement for theatres of 750 seats or less. This gives the smaller theatre an opportunity to have the best sound in town for $4,975 for all production either on film or disc. The units are leased separately also; the Phonofilm at $3,995 and the Phonodisc at $2,745.

Any one of the six can be procured on the most liberal time payments that have ever been offered exhibitors. A moderate down payment, with the balance in sixty weekly payments, will secure any of the devices. Details of the plan, according to which equipment you desire, can be secured from any authorized distributor for General Talking Pictures Corporation or by communicating directly with us.

PHONOFILM

PHONOFILM, as the name implies, is sound-on-film equipment. It is the invention of Dr. Lee DeForest, who turned his attention to talking motion pictures in 1918, to develop a new use for his audion tube. His audion tube is the only means of controlled sound amplification and is an essential part of all talking picture equipment, as well as radios and long-distance telephone lines.

In 1919 Phonofilm came into being, and the present Phonofilms reproducing device is the result of a decade of constant improving and simplifying. Unhampered by any fear of patent infringements, for General Talking Pictures Corporation owns the only sound-on-film patents which are now in the Federal Courts for adjudication, Dr. Lee DeForest and a corpse of engineers were free to make any changes, simplifications and improvements which were indicated by actual operation of DeForest Phonofilm reproducing devices in American and foreign theatres since 1923. Six years of actual theatre experience stands behind the perfection which has now been attained by Phonofilm.

"The show must go on," the one imperative rule of the theatre business was adopted as the slogan of the Phonofilm engineers. Every change that was made dictated by an inflexible order that the quality of reproduction must not be impaired, and that it must add surety of continuous performance under any circumstances. The result is that only the same ordinary care that is bestowed upon a projecting machine and a radio is necessary to keep Phonofilm running efficiently week in and week out.

Exciting lights do burn out. Phonofilm has a second one that can be snapped into place and automatically lighted in a flash of a second. It is double channel throughout. An exclusive device called "the spin wheel" insures the smooth running of the sound track past the photo electric cell which explains the constant efficiency which is noted only in Phonofilm projection. Numerous other features contribute to the smooth, continuous, efficient service given by Phonofilm
The center picture gives a full view of DeForest Phonofilm and Phonodisc installed in a theatre—the sound box is enclosed in the white circle, and the double channel panel board shows to the left. At the top is a detailed view of the double exciting lamp arrangement. At the bottom is a top view of the sound box, showing the gears, and inside the box the "spinwheel" an exclusive DeForest feature.
which has earned for it the deserved reputation of being the best sound equipment from every angle.

The Junior DeForest Phonoefilm is identical in design and performance with the standard model. For houses of 750 seating capacity, or less, it will maintain a prestige for natural reproduction of sound that will be reflected in the box-office every week in the year.

PHONODISC

PHONODISC, for reproducing sound recorded on discs, is a worthy associate of Phonoefilm. In simplicity of operation, sturdiness of construction, and quality of reproduction it ranks with Phonoefilm.

Its design and distinctive features are developments of the engineering staffs of General Talking Pictures Corporation and of British Talking Pictures Corporation. It was selected as the attachment for handling sound-on-disc productions in association with the Phonoefilm reproducing equipment only after it had been tested against numerous other sound-on-disc devices in every country in the world.

It is easy to build a disc device that will sound good in a demonstration room, where it is used only occasionally. But a disc device to stand up under the continual running to which it is necessarily subjected in a theatre, must have correct mechanical construction, and sufficient sturdiness to offset the tendency to vibration which is always present. Phonodisc is so constructed that it will operate as steadily and as efficiently ten years after its installation as it does the day the engineers of General Talking Pictures Corporation turn it over to the theatre for operation.

The Junior Phonodisc has all the quality of the standard model. For theatres of 750 seating capacity, or less, it will give a new quality to any disc productions that have been made.

REPRODUCTION

THE Phonoefilm method of sound reproduction from recordings on film is simplicity itself. Much of the difficulty which is experienced in theatres has come from a belief that there is something vastly complicated about the way sufficient sound to fill a theatre is obtained from a very narrow strip of film.

As is well known all sound is caused by vibrations of the air. In recording sound motion pictures either on disc or on film a microphone is used to collect these sound vibrations. The microphone translates the sound vibrations into electric waves which fluctuate in exactly the same way as the sound vibrations. In recording on disc these electrical vibrations go into a "cutting head," where the electrical impulses actuate a sharp steel needle which records the vibrations on a wax disc. This wax disc is afterward processed to reproduce the hard discs as are used in the theatre.
THE PHONODISC

(Photographs courtesy of the Forum Theatre, New York City)

The photograph at the top shows the extreme small amount of space required by Phonodisc (compare the turn table stand with the width of the projecting machine). In the center is shown the method of attaching the synchronizing device to the projecting machine, and at the bottom is a close view of the turn table, showing the details of its sturdy construction which insures an absolute absence of any vibration.
In the case of recording on film, the electrical waves from the microphone are conducted into a photion light, an invention of Dr. DeForest. The photion light fluctuates in intensity in exact proportion to the electrical current which passes through it. Therefore when the electric current from the microphone passes into the photion the fluctuations in the light are really a visual translation of the sound waves which have entered the microphone. Exposing this light to the sound track, gives an exact photographic record of the sound vibrations.

So to translate this photographic record back to sound is not a complicated matter. A bright light, called the exciting lamp, is placed in back of the sound box, and is focussed upon the sound track on the film as it passes in front of a photo-electric cell. The function of this cell is to translate any light that falls upon it into electric impulses. The beam from the exciting lamp shining through the sound track fluctuates according to the photographic record of the sound, and so from the sound box, via the photo-electric cell, comes electrical waves similar to those that comes from the microphone in the recording process.

That is all that there is to it and this process is automatic. No human factors enter into it, except in seeing to it that both the exciting lamp and photo-electric cell are operating efficiently. From the sound box to the speakers the process is the familiar one of the family radio. The electric currents go into an amplifier and then to the loud speakers where the electric currents are translated into audio waves or sound.
The modulator is similar in operation to the volume control on a radio.

With the disc, audio vibrations are picked up off the record, and translated into electrical vibrations by the "pick-up." From there the process of carrying the sound to the audience in the theatre is the same as with the sound-on-film.

**OPINIONS**

DeForest Phonofilm was described with the expression "The Best Sound in Town," which since has come to be identified with the General Talking Pictures Corporation sound reproducing devices, by a newspaperman in Canton, Ohio, on the occasion of the first public performance of the first installation made by the Corporation. The installation was made in the Alhambra Theatre there, and after the first performance one of the newspaper critics said to John Prescott, the manager, "You've got the best sound in town."

Mr. Prescott was in direct competition with three wired houses with equipment that had cost considerable more than had the DeForest Phonofilm installation, and he incorporated the phrase in the wire sent to General Talking Pictures Corporation. He telegraphed:

"Newspapermen confirmed my own opinion that the Alhambra Theatre has the best sound in town after opening today with the DeForest Phonofilm sound projector. Patrons who have heard them all stopped to congratulate me on the tone and naturalness after each performance. In spite of stiff competition of every kind I now feel that I am in a position to offer better entertainment than is possible with any other device. My personal congratulations to Dr. DeForest on his achievement."

Pulch and Huebner, operators of the beautiful Dyker Theatre, in Brooklyn, New York, wired:

"We want to tell you we are pleased and more than satisfied, with the DeForest Phonofilm. The reproduction of sound and dialogue is perfect and we are certain that we have the best sound in town."

M. B. Horowitz, operator of the Plaza, Astor and Haltnorth theatres in Cleveland, Ohio, heard DeForest Phonofilm in the projecting rooms at the executive offices, 218 West 42nd Street, New York, and immediately arranged to have all three of his houses installed with it immediately. When the Plaza opened with DeForest Phonofilm, Mr. Horowitz wired:
“Congratulations on the tone of the DeForest Phonofilm we started at the Plaza Theatre today. The tone in the theatre is every bit as clear as when I heard it in your projection rooms.”

Warner Brothers established a policy of refusing product to reproducing devices that could not pass a test of quality. Here is an actual report made by a checker for the company on the DeForest Phonofilm and Phonodisc equipment in the Stillwell Theatre, 24th Avenue and 86th Street, Brooklyn, N. Y.

The General Manager of Consolidated Theatres, Denver, Colo., selected DeForest Phonofilm after a lengthy investigation of all the devices on the market. He wrote regarding the performance of the device when installed at the Curran Theatre, Boulder, Colo.:

“Film men, theatre managers, every member of our own board of directors, was present for the opening. It was anxious moments for me because I was backing DeForest Phonofilm against the best equipment on the market and the other equipments were proven, while
few in the West had ever heard of DeForest. The reception it received was most sensational. There was not a man in the audience, who didn’t say, ‘It’s the best sound equipment I ever heard.’

Numerous other users of the DeForest Phonofilm and Phonodisc equipment, have been equally enthusiastic. General Talking Pictures Corporation has never yet received a complaint about the quality of tone of the instruments.

Installations of DeForest Phonofilm and Phonodisc are being made so rapidly that it can be heard in almost any district of the United States in actual operation in theatres. Any authorized distributor for General Talking Pictures Corporation will be glad to let you know where it can be heard in your vicinity.

**DISTRIBUTORS**

Authorized Distributors of DeForest Phonofilm and Phonodisc are:


For Kentucky, Michigan, Ohio, Western Pennsylvania and West Virginia—Jesse C. Fishman, 600 Film Building, Cleveland, Ohio.

For Arizona, California and Nevada—J. J. Goldburg, 1584 West Washington Boulevard, Los Angeles, Cal.

For Alabama, Arkansas, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee and Texas—A. Harrison, Jr., 610 Baronne Street, New Orleans, La.


For Colorado, Southern Idaho, Montana, New Mexico, Utah and Wyoming—F. H. Ricketson, 519 Temple Court Building, Denver, Colo.

For Iowa and Nebraska—Harry D. Goldberg, Fort Des Moines Hotel, Des Moines, Iowa, or Hotel Fontenelle, Omaha, Neb.


For Kansas and Western Missouri—William R. Sheridan, 130 West 18th Street, Kansas City, Mo.

For Upper and Western New York State—George Mooser, 327 Main Street, Buffalo, New York.

For Southern New York State, including New York City and Northern New Jersey—General Talking Pictures Corporation, 218 West 42nd Street, New York City.
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